Indian River Lagoon Feasibility Study
Preliminary Selected Plan
Description of Components in C-44 Basin
12/07/00

Three alternatives will be simulated with the South Florida Water Management Model (SFWMM): IRL-1A, IRL-1B and IRL-1C. IRL-1A is similar to Alternative 2 of the IRL study. It is basically an improved version of D13R, the Comprehensive Plan. IRL-1B is similar to Alternative 5 considered by the IRL team as their Prelininary Selected Plan. It includes all of the features in Alternative 5 except for the South Fork STA and diversion canal, 5-mile Creek STA, and muck removal. IRL-1C is similar to IRL-1B, but with less water diverted from C-23 into C-44 canal

The SFWMM does not directly simulate the components in the Indian River Lagoon Basin (C-44, C-23, C-24, North Fork, and South Fork canals, and Basins 4, 5, and 6). Instead, it relies upon other models and their output which is used as input to the SFWMM. Additional information about the alternatives and hydrologic simulations completed previously using other computer models, can be found at http://www.evergladesplan.org/projects/irl/irl_main.htm.

Described below are the components in the C-44 Basin which will have a direct effect on discharges from Lake Okeechobee and the C-44 Basin to the Indian River Lagoon.

Flow Targets To IRL:
The revised targets for flows to the estuary are based on NSM modeling. The revised targets are only for high flow and very-high flow conditions. There are no low flow targets These are:

- Fewer than 10 months in 65-95 simulation with mean monthly flow >3000 cfs
- Fewer than 28 months in 65-95 simulation with mean monthly flow >2000 cfs

Operational Rules For C-44 West Reservoir (Apply to All Three Simulations):

1. If S-308 is closed:
   - runoff is captured according to operating rules
   - reservoir storage is released to canal according to operating rules
   - basin irrigation demands supplied by reservoir until reservoir is empty
2. If S-308 is open:
   - reservoir drains into LOK until reservoir is at depth of 1 ft
   - runoff is not captured
   - basin irrigation demands supplied by reservoir until reservoir is empty

Components in IRL-1A:

1. C-44 West Reservoir
   Area = 3000 acres
   Maximum Control Depth = 10 ft
   Storage Capacity = 30,000 ac-ft
   Pump Capacity = 1,090 cfs

Maximum Allowed Released Rate from Reservoir = 200 cfs
Seepage = 0.381 cfs/mile of levee/ft of head (like FP&L reservoir)

(no other components in this alternative)

SUMMARY OF HYDROLOGY FOR IRL-A (af/y over 1965-1995 period of record)

Runoff from c44	194,043
Irrigation Demand from C44	27,387
Irrigation Supply from C44 Reservoir	2,305
Flow to LOK (S308)	106,670
Flow to SLE (S80)	82,580
Months >3000 cfs	8
Months >2000 cfs	25

(Shaded areas show IRL modeling results. SFWMM results may differ.)

Components in IRL-1B and IRL-1C:

1. C44 West Reservoir
   Area = 3000 acres
   Maximum Control Depth = 10 ft
   Storage Capacity = 30,000 ac-ft
   Pump Capacity = 1,090 cfs
   Maximum Allowed Released Rate from Reservoir = 200 cfs
   Seepage = 0.381 cfs/mile of levee/ft of head (like FP&L reservoir)

2. C44 West STA
   Area = 2000 acres
   Maximum Control Depth = 2 ft
   Storage Capacity = 4,000 ac-ft
   Pump Capacity = 200 cfs
   Seepage = 0.381 cfs/mile of levee/ft of head (like FP&L reservoir)

3. C44 East STA
   Area = 3,840 acres
   Maximum Control Depth = 2 ft
   Storage Capacity = 7,680 ac-ft
   Pump Capacity = 250 cfs
   Seepage = 0.381 cfs/mile of levee/ft of head (like FP&L reservoir)

4. Conversion/Enhancement of 19,256 acres of native land.

Summary of Hydrology for IRL-B (af/yr over 1965-1995 period of record)

Runoff from c44	184,978
Irrigation Demand from C44	27,387
Water Diverted from C23/C24 into C44	78,940
Irrigation Supply from C44 Reservoir	3,900
Flow to LOK (S308)	142,636
Flow to SLE (S80)	116,499
Months >3000 cfs	9
Months >2000 cfs	27

(Shaded areas show IRL modeling results. SFWMM results may differ.)

Summary of Hydrology for IRL-C (af/yr over 1965-1995 period of record)

Runoff from C-44	184,978
Irrigation Demand from C-44	27,387
Water Diverted from C23/C24 into C44	42,214
Irrigation Supply from C44 Reservoir	3,900
Flow to LOK (S308)	123,214
Flow to SLE (S80)	100,746
Months >3000 cfs	9
Months >2000 cfs	26

(Shaded areas show IRL modeling results. SFWMM results may differ.)